

Title (en)

PHOTOMASK WITH ELECTROSTATIC DISCHARGE PROTECTION

Title (de)

FOTOMASKE MIT SCHUTZ GEGEN ELEKTROSTATISCHE ENTLADUNG

Title (fr)

PHOTOMASQUE À PROTECTION CONTRE LES DÉCHARGES ÉLECTROSTATIQUES

Publication

EP 3850431 A1 20210721 (EN)

Application

EP 19909773 A 20190117

Priority

CN 2019072122 W 20190117

Abstract (en)

[origin: US2020233298A1] The present invention provides a photomask including a substrate, a circuit pattern on the substrate, an electrostatic discharge (ESD) ring on the substrate and an ESD line on the substrate. The ESD structure surrounds the circuit pattern. The ESD line extends between an edge of the substrate and the ESD structure, in which the ESD line includes an edge portion extending beyond an end of an edge of the ESD structure, and the edge portion of the ESD line includes at least one comb-shaped structure.

IPC 8 full level

G03F 1/40 (2012.01)

CPC (source: EP KR US)

G03F 1/36 (2013.01 - US); **G03F 1/40** (2013.01 - EP KR US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

US 11493842 B2 20221108; US 2020233298 A1 20200723; CN 109891317 A 20190614; CN 109891317 B 20201117; EP 3850431 A1 20210721; EP 3850431 A4 20220427; EP 3850431 B1 20230614; JP 2022509247 A 20220120; JP 7295237 B2 20230620; KR 102611272 B1 20231206; KR 20210062699 A 20210531; TW 202028853 A 20200801; TW I696883 B 20200621; WO 2020147059 A1 20200723

DOCDB simple family (application)

US 201916292230 A 20190304; CN 2019072122 W 20190117; CN 201980000184 A 20190117; EP 19909773 A 20190117; JP 2021530777 A 20190117; KR 20217013246 A 20190117; TW 108106959 A 20190304